



US005506839A

United States Patent [19]**Hatta**[11] **Patent Number:** **5,506,839**[45] **Date of Patent:** **Apr. 9, 1996**

[54] **CONGESTION CONTROL METHOD,
TERMINAL ADAPTER USING THE
METHOD AND COMMUNICATIONS
SYSTEM USING THE TERMINAL ADAPTER**

Primary Examiner—Melvin Marcelo[57] **ABSTRACT**[75] Inventor: **Hiroyuki Hatta**, Kawasaki, Japan[73] Assignee: **Fujitsu Limited**, Kanagawa, Japan[21] Appl. No.: **281,350**[22] Filed: **Jul. 27, 1994**[30] **Foreign Application Priority Data**

Nov. 24, 1993 [JP] Japan 5-293602

[51] Int. Cl.⁶ **H04J 3/12**[52] U.S. Cl. **370/60; 370/94.1; 370/110.1**[58] Field of Search **370/13, 17, 60,
370/60.1, 61, 79, 94.1, 94.2, 110.1, 99**

In a congestion control method adapted to a communications system having a network, a terminal and a terminal adapter which is provided between the network and the terminal and interchanges a first frame format handled by the network and a second frame format handled by the terminal, the terminal adapter receives a signal sent in the first frame format via the network and detects whether or not the signal includes congestion notification information indicating occurrence of a congestion in the communications system. The terminal adapter then sends a signal in the second frame format including first notification information to the terminal. The terminal adapter then performs a predetermined control process for recovery from the congestion when the terminal receives the signal in the second frame format.

[56] **References Cited****U.S. PATENT DOCUMENTS**

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16 Claims, 11 Drawing Sheets